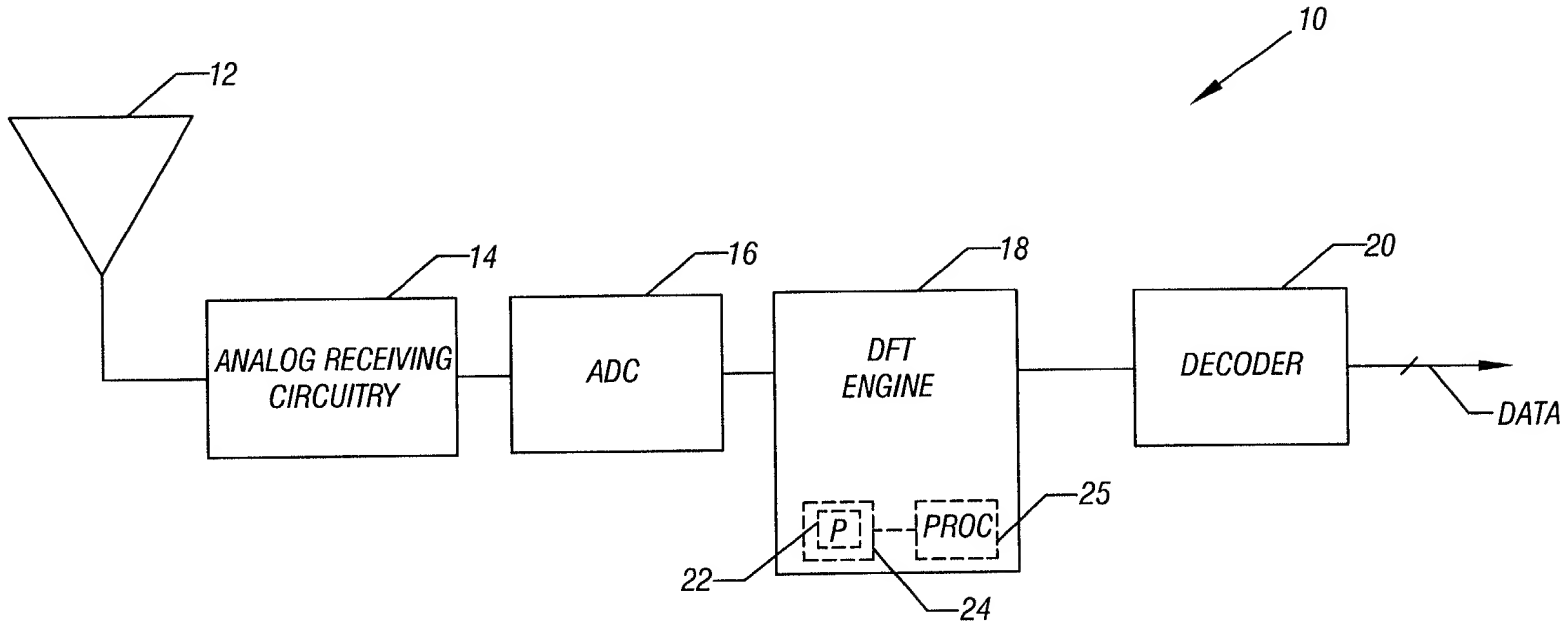
10
12
14
16
18
20
ANALOG RECEIVING CIRCUITRY
ADC
DFT ENGINE
DECODER
DATA
P
PROC
22
24
25

FIG. 1

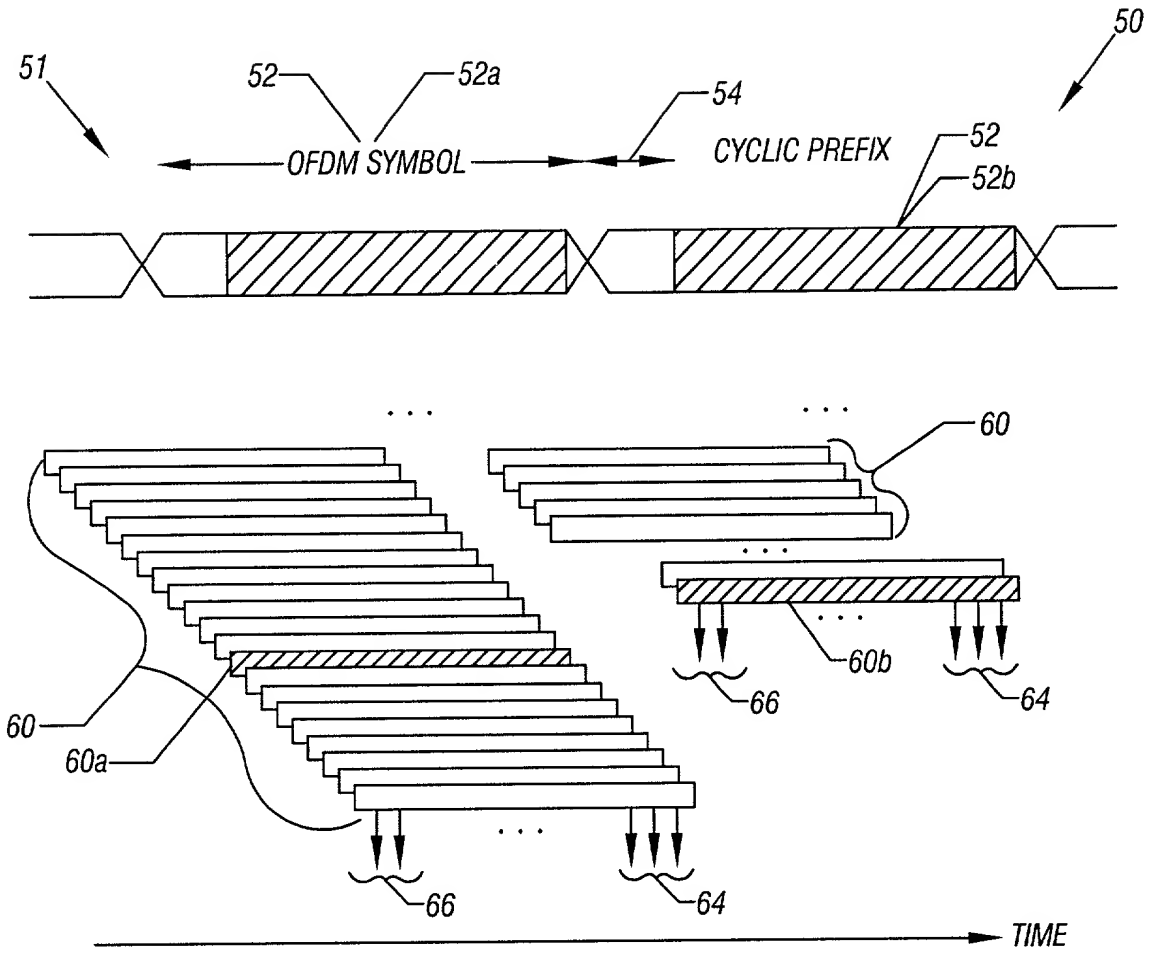
50
51
52
52a
54
OFDM SYMBOL
CYCLIC PREFIX
52
52b
60
60a
60b
66
64
66
64
TIME

FIG. 2

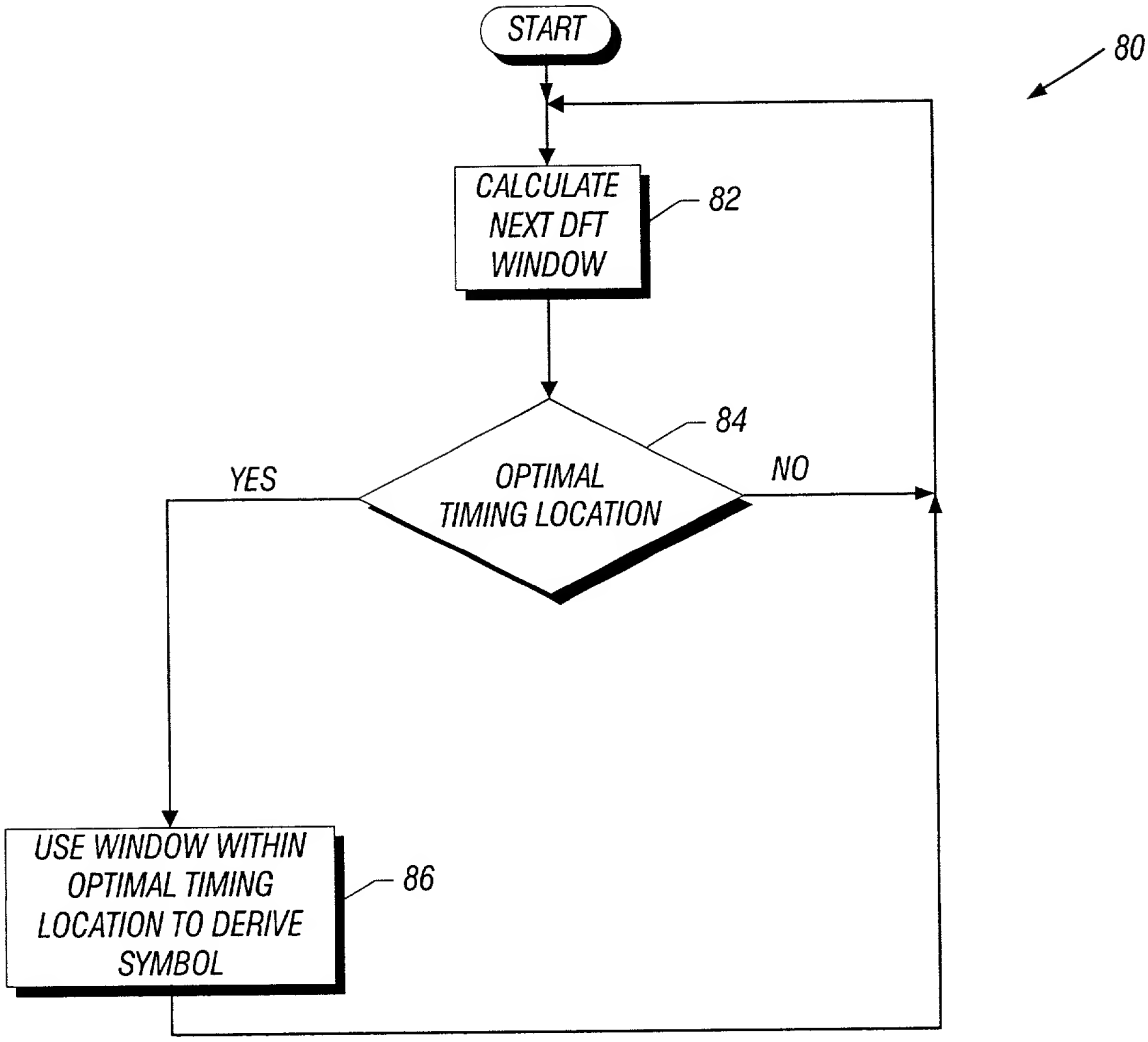
START
80
CALCULATE NEXT DFT WINDOW
82
84
OPTIMAL TIMING LOCATION
YES
NO
USE WINDOW WITHIN OPTIMAL TIMING LOCATION TO DERIVE SYMBOL
86

FIG. 3

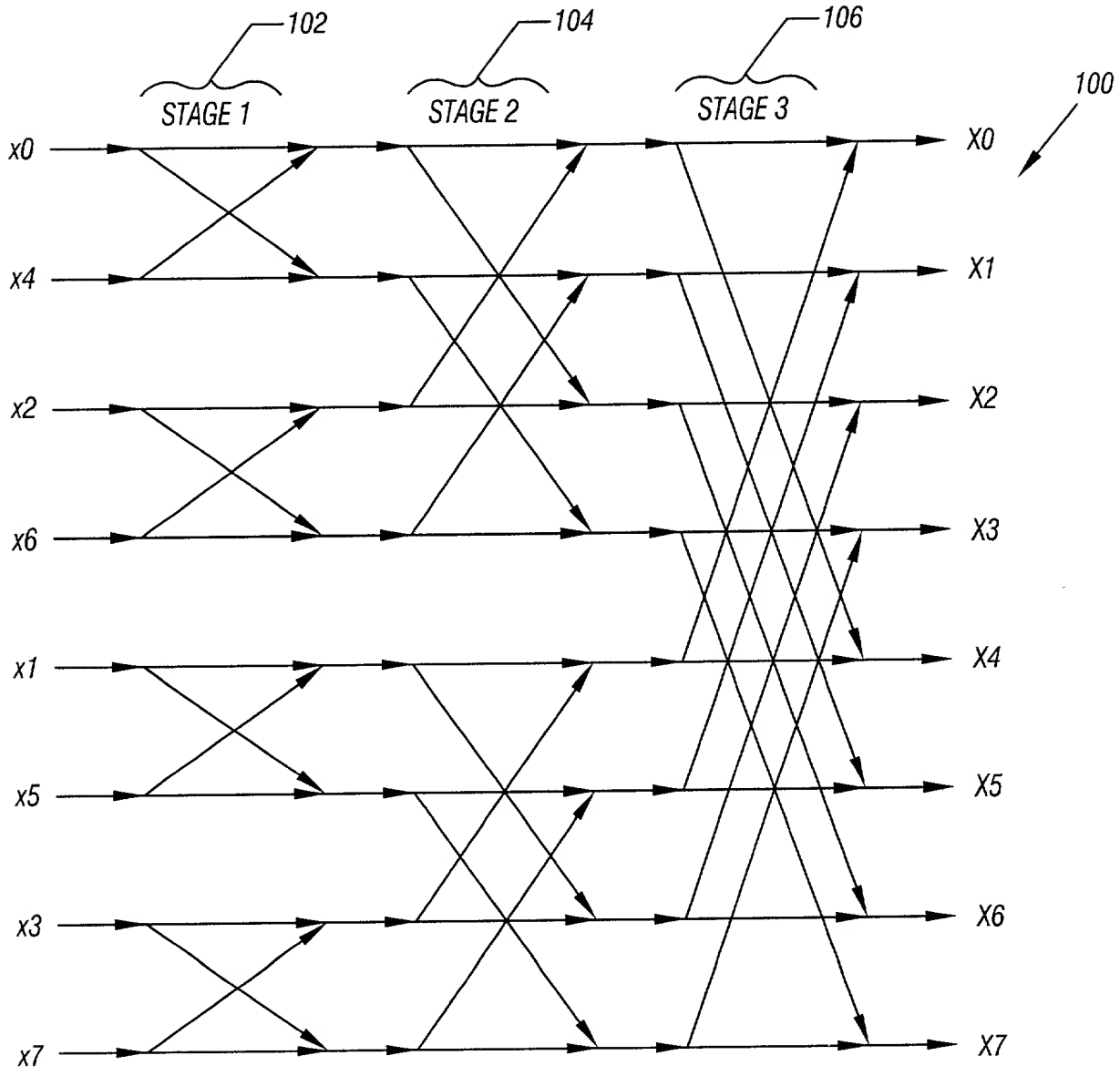
102
104
106
STAGE 1
STAGE 2
STAGE 3
100
x0
x4
x2
x6
x1
x5
x3
x7
X0
X1
X2
X3
X4
X5
X6
X7

FIG. 4

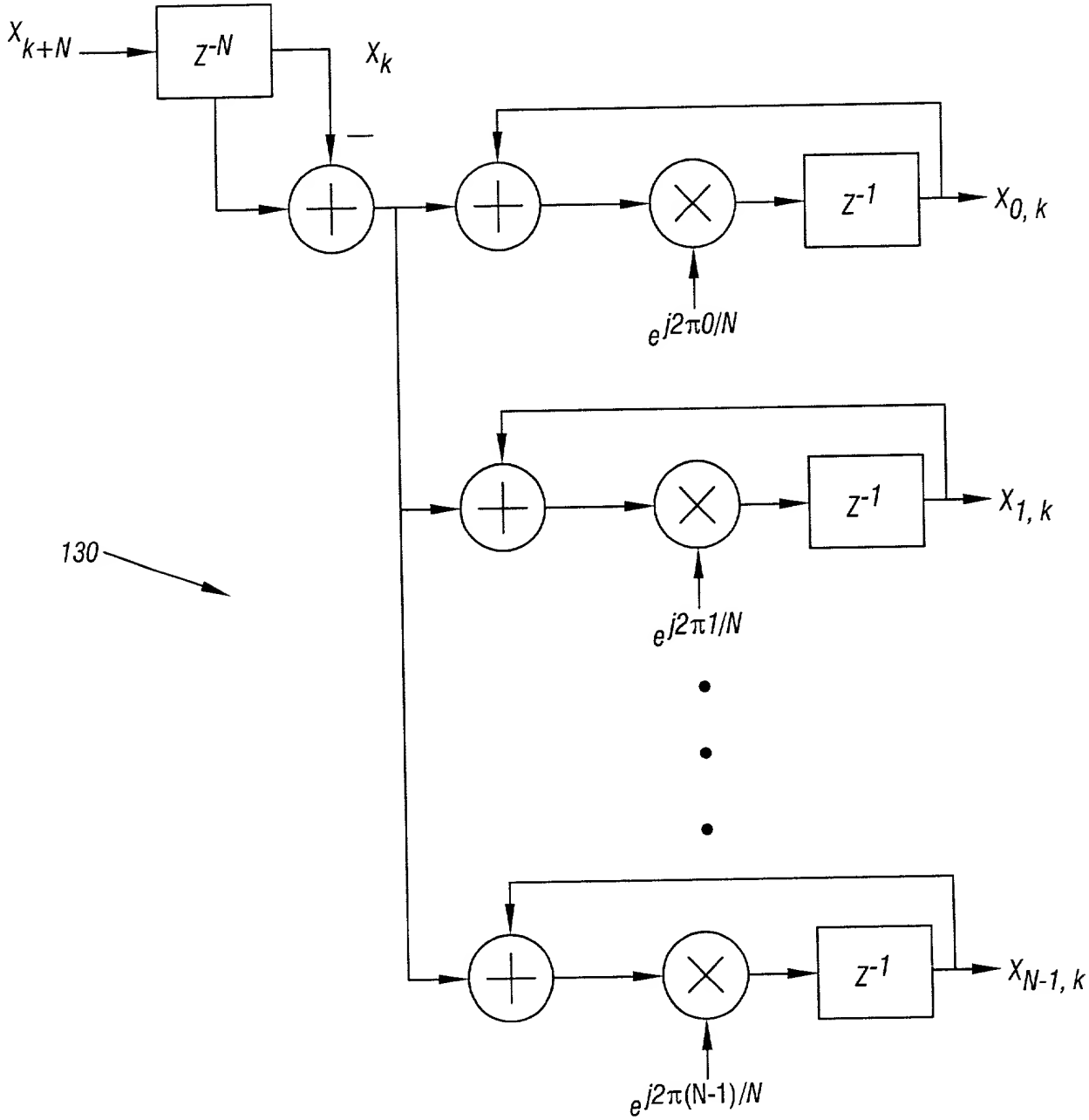

FIG. 5

TOTAL NO. OF SUBCARRIERS (N)	PROCESSING REQUIRED FOR FFT Nlog2(N)	EQUIVALENT SUBCARRIERS USING swDFT: sqrt(Nlog2(N))
16	64	4
32	160	5
64	384	6
128	896	7
256	2048	8
512	4608	9
1024	10240	10
2048	22530	11
4096	49150	12

FIG. 6

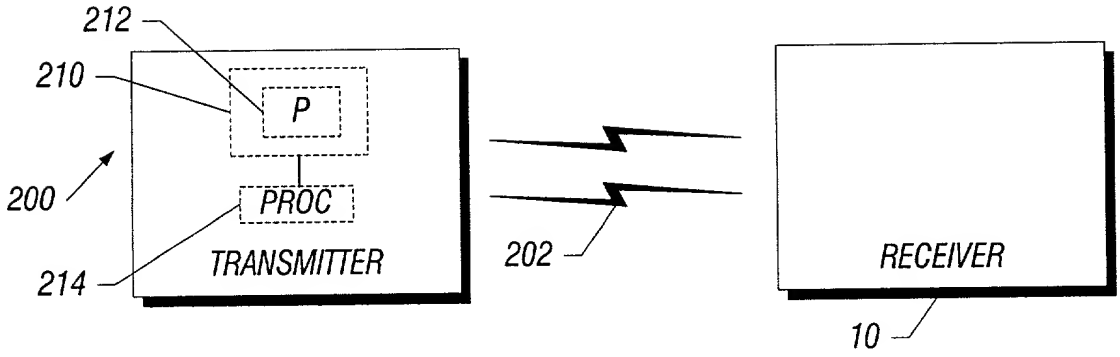

FIG. 7

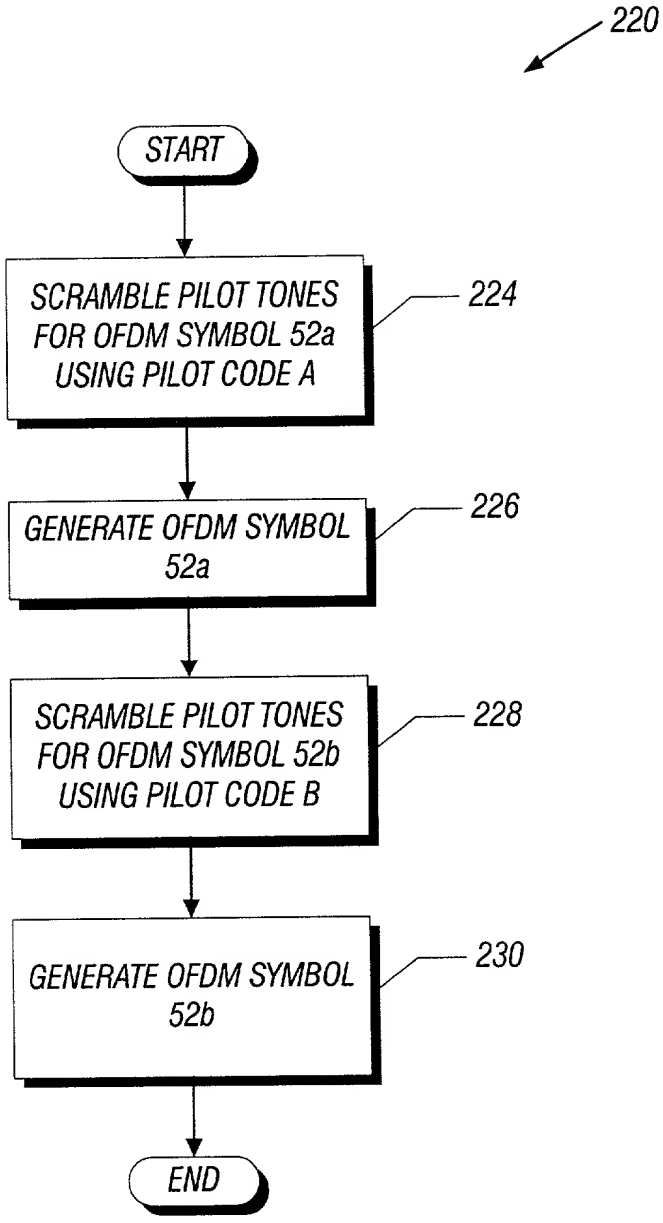
220
START
SCRAMBLE PILOT TONES FOR OFDM SYMBOL 52a USING PILOT CODE A
224
GENERATE OFDM SYMBOL 52a
226
SCRAMBLE PILOT TONES FOR OFDM SYMBOL 52b USING PILOT CODE B
228
GENERATE OFDM SYMBOL 52b
230
END

FIG. 8

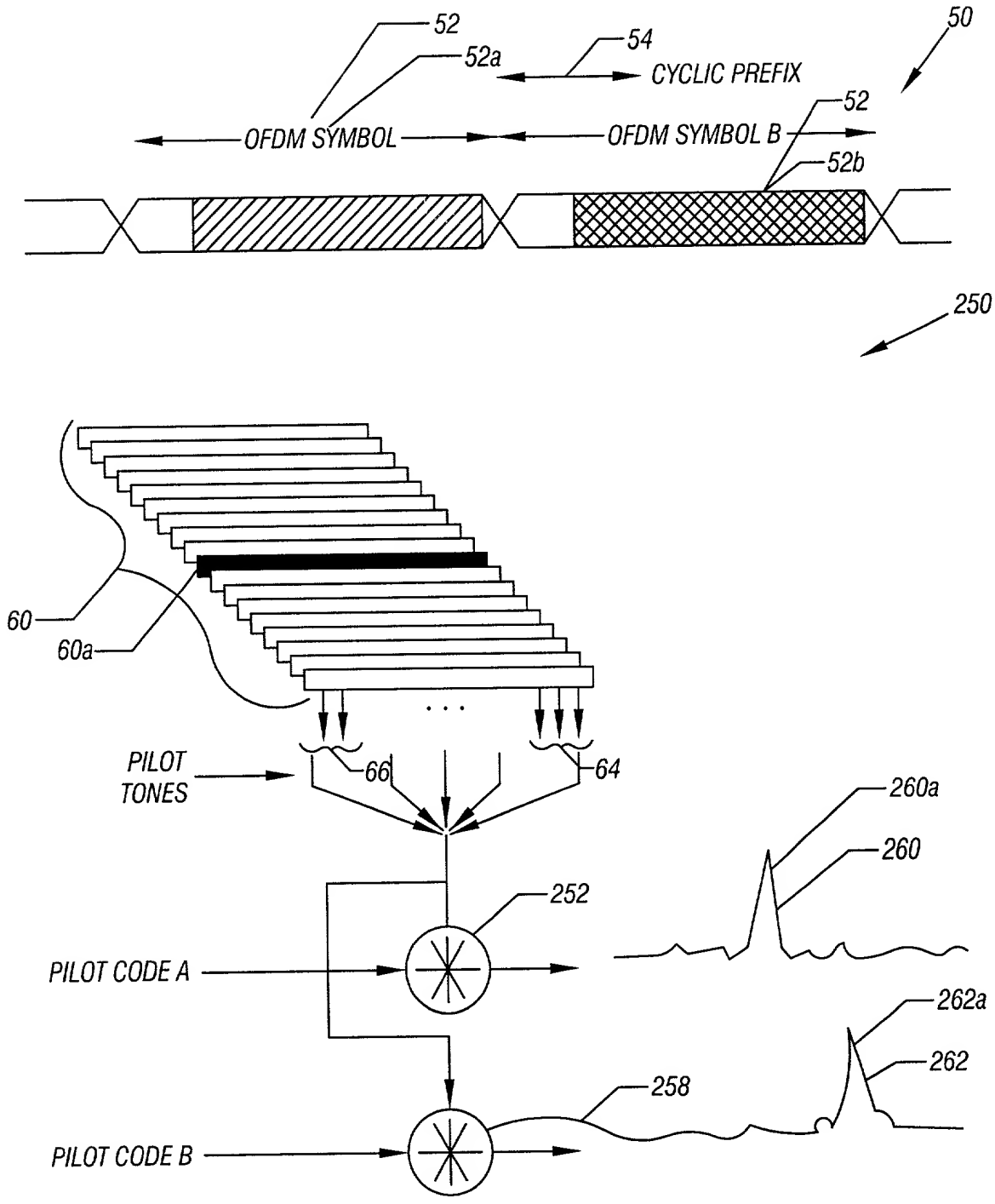
52
52a
54
CYCLIC PREFIX
50
52
OFDM SYMBOL
OFDM SYMBOL B
52b
250
60
60a
PILOT
TONES
66
64
260a
260
252
PILOT CODE A
262a
262
258
PILOT CODE B

FIG. 9